

Richard J. McCurdy
Appln. No. 09/662,181

REMARKS

Claims 33-41, 47-55 and 100-102 are all the claims pending in the application.

Claims 33-41 and 47-55 have again been rejected under 35 U.S.C. § 112, first paragraph, as assertedly failing to comply with the written description requirement. See, the final Office Action dated October 18, 2004.

Applicant again traverses these rejections.

It is clear from the previously submitted McCurdy Declarations that it would have been apparent to one having ordinary skill in the art at the time when the instant Application was filed that the processes of Examples 1, 2, 5, and 7 of the instant Application result in a coating that is crystalline and photocatalytically-activated, self-cleaning. As indicated in the Rule 116 Amendment, every criticism raised by the Examiner has been addressed by the multiple declarations from Dr. McCurdy.

Further, as discussed in the attached Third Supplemental Declaration (see, paragraph 4), the above referenced Application describes a method that includes manufacturing a continuous glass float ribbon having a first major surface and an opposite major surface defined as a second major surface, the first major surface having tin diffused therein characteristic of forming the glass float ribbon on a molten tin bath. It further describes and claims a chemical vapor deposition coating apparatus positioned over the surface of the float ribbon at a point in the manufacture of the float ribbon where the temperature is from about 590° to 715°C (1100° to 1320°F). Titanium tetrachloride in a carrier gas stream is directed through the chemical vapor

deposition apparatus over a surface of the float ribbon, and the float ribbon is annealed to produce a coating over the glass float ribbon.

As also discussed in the attached Declaration (see, paragraph 5), carrying out this process would inherently result in a crystalline coating layer over the glass float ribbon that is photocatalytically activated, and one skilled in the art would recognize that a photocatalytically activated, crystalline coating layer would inherently result.

A coating that is crystalline and photocatalytically activatable is a necessary result of the chemical vapor deposition of titanium dioxide on a glass float ribbon followed by annealing of the ribbon, as recognized in U.S. Patent No. 6,722,159 which describes a method for producing a layer of titanium dioxide in the crystalline phase over a glass float ribbon, the layer of titanium dioxide being a photocatalytically-activatable, self-cleaning coating that the patentee asserts is capable of having a photocatalytically-activated self-cleaning reaction rate of at least about $2 \times 10^{-3} \text{ cm}^{-1} \text{ min}^{-1}$ upon exposure to ultraviolet radiation.

The method described in the '159 Patent includes the steps of positioning a chemical vapor deposition coating apparatus over a tin bath containing a glass ribbon having a temperature of at least about 400°C. (752°F.), directing a titanium dioxide precursor through the chemical vapor deposition apparatus over a surface of the heated glass ribbon, and annealing the glass ribbon. The '159 Patent uses a variety of deposition technologies to produce a TiO₂ coating: high temperature CVD process (1200°F), medium temperature CVD process (900°F), and spray pyrolysis.

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The high temperature CVD process of the '159 Patent utilizes a deposition temperature that is within the range of deposition temperatures referred to above in connection with the present invention, and the coatings were found to be photocatalytic and predominately anatase under the vast majority of conditions. For the medium temperature CVD process (900°F), the coatings had low photocatalytic activity as deposited or were made photoactive by heating to a higher temperature to induce and/or further develop the crystalline structure of the coatings. Annealing coatings at temperatures above the deposition temperature is a common method to induce or further develop the crystallinity of the film. See, paragraph 6 of the attached Third Supplemental Declaration.

Further, as described in paragraph 7 of the attached Declaration, depositing a TiO₂ film at about 1200°F or annealing it to near 1200°F post deposition results in a crystalline TiO₂ film which is photoactive. The processes of the present invention deposits at this temperature such that a further high temperature annealing step is unnecessary and a crystalline photoactive TiO₂ film results. Third Supplemental Declaration, paragraph 7.

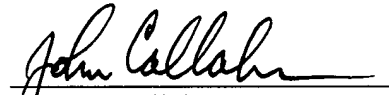
In view of the foregoing, especially the attached Third Supplemental Declaration, Applicant submits that the claimed invention clearly complies with the requirements of Section 112, first paragraph. Accordingly, withdrawal of this rejection is required.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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23373

CUSTOMER NUMBER

Date: November 17, 2005